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Evaluating Alternatives to Manage Phosphorus in Lake Okeechobee

DECEMBER 16, 2002

The South Florida Water Management District *is a regional, governmental agency that oversees the water resources in the southern half of the state. It is the oldest and largest of the state's five water management districts.*

Our Mission is to manage and protect water resources of the region by balancing and improving water quality, flood control, natural systems, and water supply.

FOR MORE INFORMATION ABOUT OUR AGENCY

Visit our web site at

www.sfwmd.gov or

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FL WATS 1-800-432-2045.

PUBLIC MEETING ANNOUNCED

JANUARY 14, 2003

6:30 p.m. – 8:00 p.m.

South Florida Water Management District, Okeechobee Service Center

Auditorium

205 Parrott Avenue

Suite 201

Okeechobee, FL 34972

Telephone-

(863) 462-5260 or

(800) 250-4200

About Lake Okeechobee

Conditions in Lake Okeechobee have changed dramatically over the last century, largely as a result of external loading. Nutrient inputs, phosphorus in particular, enter the ecosystem from agriculture and other human activities in the watershed. The legacy left after decades of high external loads of phosphorus to the lake is lake-bottom sediment with high concentrations of phosphorus.

Studies indicate there are currently more than 51,600 metric tons (~56,760 tons) of phosphorus in the mud sediments of the lake. It has been postulated that this phosphorus-laden sediment may be frequently resuspended in the water column by wind and waves during storms. Reports indicate the contribution of phosphorus to the lake's water column from internal sources may be nearly equal to the external loading throughout the watershed. Many theorize that, if this high rate of internal loading is not addressed in some manner such as management of the sediments within the lake, the lake may not respond to reductions in external phosphorus inputs or the response may be significantly delayed. Implementation of best management practices and voluntary reduction programs are currently reducing external phosphorus loads.

Purpose of the Feasibility Study

The purpose of the Lake Okeechobee Sediment Management Feasibility Study is to evaluate a "No In-Lake Action" sediment management approach against a variety of sediment management options to address the potential internal phosphorus loading issue. The overall objective of any sediment management alternative under evaluation is to substantially reduce in-lake phosphorus concentrations, improve water quality and water clarity, and reduce the occurrence of blue-green algae blooms. All alternatives under evaluation consider the reduction of external loading to Lake Okeechobee.

Feasibility Study Process

The 3-year feasibility study is designed to progress in five major stages, or tasks:

- Task 1 Establishment of goals and performance measures and identification of potential impacts and preparation of a public outreach plan;
- Task 2 Development of a specific array of alternatives evaluated in detail during the feasibility study;
- Task 3 Preparation of a work plan for conducting the detailed evaluation of alternatives;
- Task 4 Detailed evaluation of the alternatives; and
- Task 5 Prioritization of alternatives, weighting of performance measures, and selection of an appropriate course of action.

Five main goals were developed with input from the public and governmental agencies during Task 1. They are:

- Goal 1 – Maximize water quality improvements;
- Goal 2 – Maximize engineering feasibility and implementability;
- Goal 3 – Maximize cost effectiveness;
- Goal 4 – Maximize environmental benefits; and
- Goal 5 – Maximize socioeconomic benefits.

Task 2 included presentation of an array of sediment management alternatives to the public for review and comment. Thirty-six alternatives were presented, analyzed and screened using specific criteria including effectiveness, implementability, applicability to Lake Okeechobee, risk and liability.

The retained technologies were built into the following major alternatives that are evaluated in this feasibility study:

- No In-Lake Action, combined with monitoring of external loads
- Chemical Treatment with aluminum compounds
- Hydraulic Dredging, using three post-dredge sediment management scenarios, including beneficial reuse

Task 4 – Evaluation of Alternatives is intended to answer the following basic questions:

- What will happen to the lake if the no action alternative is implemented?
- How long will it take for the lake to recover if we address reductions in external loads only?
- Of the feasible alternatives, which is the most effective for addressing phosphorus in the lake?
- How long will the alternative take to implement?
- How much will the alternative cost?
- What are the potential impacts and benefits (environmental, economic, other) of the alternative?

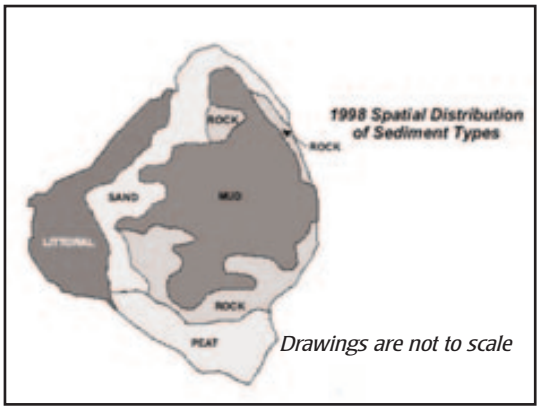
The next public meeting is scheduled as follows:

Purpose: To provide project information and receive input on the project's Evaluation of Alternatives

When: January 14, 2003 6:30 p.m. – 8:00 p.m.

Where: South Florida Water Management District
Okeechobee Service Center Auditorium
205 North Parrott Avenue, Suite 201
Okeechobee FL 34972
Telephone: (863) 462-5260 or (800) 250-4200

All interested parties are cordially invited and encouraged to attend the public workshop and participate in the feasibility study



Drawings are not to scale

– FOR MORE INFORMATION –

To learn more about the Lake Okeechobee Sediment Management Feasibility Study and review project documents, please visit the project web site at

http://www.sfwmd.gov/org/wrp/wrp_okee/projects/sedimentmanagement.html

or contact Jorge Patino, the District's project manager by electronic mail at jpatino@sfwmd.gov

or call 561-682-2731.

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